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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte KENT DIRKSEN KASPER
and STEPHEN ARTHUR AUSTIN

Appeal 2008-4485
Application 10/628,652
Technology Center 2800

Decided: November 24, 2008

Before EDWARD C. KIMLIN, PETER F. KRATZ, and
MICHAEL P. COLAIANNI, *Administrative Patent Judges*.

COLAIANNI, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134 the final rejection of claims 1-9, 12-14, 16-18, and 20-23. We have jurisdiction over the appeal pursuant to 35 U.S.C. § 6(b).

We AFFIRM-IN-PART.

INTRODUCTION

Appellants' invention is directed to a fluid metering device (20) having first concave surface 22 and a second concave surface 24, which meet at an edge (36) for splitting a fluid film (Spec. ¶ [0024]). The first concave surface (20) provides for better flow characteristics and reduces pressures on the metering element (Spec. ¶ [0009]). The second concave surface permits the fluid of the split film to be returned to the supply container (Spec. ¶ [0013]). Appellants' invention is further directed to a method for metering fluid in a printing press (claim 12).

Claims 1, 16, and 17 are illustrative:

1. A fluid delivery device for a printing machine comprising:

a rotating roller having a roller surface with a roller radius of curvature, the roller surface carrying a fluid film; and

a metering element having an edge for splitting the fluid film and a first concave surface facing the roller surface;

the metering element being movable with respect to the roller surface so that the edge moves along a radial line from a center of the rotating roller.

16. A fluid delivery device for a printing machine comprising:

a rotating roller having a roller surface with a roller radius of curvature, the roller surface carrying a fluid film; and

a metering element having an edge for splitting the fluid film and a first concave surface facing the roller surface;

the metering element being movable with respect to the roller surface;

wherein the first concave surface corresponds to an arc of 10 degrees or more of the roller surface.

17. A fluid delivery device for a printing machine comprising:

a rotating roller having a roller surface with a roller radius of curvature, the roller surface carrying a fluid film; and

a metering element having an edge for splitting the fluid film and a first concave surface facing the roller surface;

the metering element being movable with respect to the roller surface;

wherein a thickness of the fluid film downstream from the metering element is half of an average distance of the concave surface from the roller surface.

The following prior art was applied by the Examiner:

Granger	US 3,585,932	Jun. 22, 1971
Dahlgren	US 3,664,261	May 23, 1972
Shriver	US 5,003,875	Apr. 2, 1991
Kistler	US 6,450,097 B1	Sep. 17, 2002

The rejections on appeal as presented by the Examiner are as follows:

1. Claims 17 and 21 are rejected under 35 U.S.C. § 102(b) as being unpatentable over Granger.
2. Claims 16 and 22 are rejected under 35 U.S.C. § 103 as being unpatentable over Granger.
3. Claims 1-4, 6-9, 12-14, 20, and 23 are rejected under 35 U.S.C. § 103 as being unpatentable over Shriver in view of Granger.

4. Claim 5 is rejected under 35 U.S.C. § 103 as being unpatentable over Shriver in view of Granger and Dahlgren.
5. Claim 18 is rejected under 35 U.S.C. § 103 as being unpatentable over Shriver in view of Granger and Kistler.

Appellants argue claims 1, 5, 9, and 16-18. Accordingly, we address Appellants' arguments directed to rejections 1 and 2 with regard to claim 17 and 16, respectively. Under the circumstances presented in the appeal, we address Appellants' arguments directed to rejections 3-5 with respect to claim 1, the only independent claim separately argued. For reasons evident below, the rejections of claims 3-9, 12-14, 18, 20, and 23 stand or fall with claim 1.

35 U.S.C. § 102 REJECTION OVER GRANGER

STATEMENT OF THE CASE

The Examiner finds that Granger discloses a fluid metering device having the same structure as recited in claim 17 such that Granger's device would be "capable of achieving the recited functional outcome as recited, wherein the thickness of the fluid film downstream from the metering element is half of an average distance of the concave surface from the roller surface" (Ans. 3).

Appellants argue that Granger does not disclose that the downstream thickness of the fluid is "half an average distance" as claimed (App. Br. 6). Appellants further contend that Granger's device has a different structure than that disclosed by Appellants because Granger has a reservoir 38, cells 25 and a different structure for metering element 61 (i.e., ink doctor blade)

(Reply Br. 2). Appellants further argue that no film is split by Granger as the ink leaves the reservoir (Reply Br. 2).

ISSUE

Did the Appellants show that the Examiner erred in finding that Granger's disclosed fluid metering device structure is identical to the device recited in claim 17 such that Granger's device is capable of achieving "a thickness of the fluid film downstream from the metering element [that] is half of an average distance of the concave surface from the roller surface"? We answer this question in the negative.

PRINCIPLES OF LAW

To anticipate a claim, a prior art reference must disclose every limitation of the claimed invention, either explicitly or inherently. *In re Schreiber*, 128 F.3d 1473, 1477 (Fed. Cir. 1997). The question whether a claim limitation is inherent in a prior art reference is a factual issue on which evidence may be introduced. *Id.*

A patent applicant is free to recite features of an apparatus either structurally or functionally, however, where the Patent and Trademark Office has reason to believe that a functional limitation asserted to be critical for establishing novelty in the claimed subject matter may, in fact, be an inherent characteristic of the prior art, it possesses the authority to require the applicant to prove that the subject matter shown to be in the prior art does not possess the characteristic relied on. *Schreiber*, 128 F.3d at 1478. Where a prior art reference discloses all the structural features of a claimed apparatus, the absence of disclosure in the prior art reference relating to a

functional limitation recited in the apparatus claim does not defeat a finding of anticipation. *Schreiber*, 128 F.3d at 1477.

The transitional phrase “comprising” is a term of art used in claim language which means that the named elements are essential, but other elements may be added and still form a construct within the scope of the claim. *In re Crish*, 393 F.3d 1253, 1257 (Fed. Cir. 2004).

FACTUAL FINDINGS (FF)

1. Claim 17 structurally recites:
 - 1) a rotating roller having a roller surface with a roller radius of curvature
 - 2) a metering element having an edge and a first concave surface facing the roller surface
 - 3) the metering element structured to be moveable with respect to the roller surface.
2. Claim 17 functionally recites that edge on the metering element is “for splitting the fluid film” and “wherein a thickness of the fluid film downstream from the metering element is half of an average distance of the concave surface from the roller surface.”
3. Granger discloses a rotary printing press including an inking cylinder having an improved means for applying ink to the cylinder (col. 1, ll. 15-20).
4. Granger discloses the means for applying ink includes an ink fountain assembly 35 having a pan or tray 36 and an inking cylinder 14 (i.e., a roller) (col. 2, ll. 38-41).

5. Granger further discloses that the fountain assembly includes an ink control subassembly 60 including an ink control blade 61 with a number of guide vanes or fins 63 thereon and the blade 61 has an inner surface 62 that has the same or very nearly the same radius as the cylinder 14 (i.e., a concave surface) (col. 3, ll. 19-23).
6. The ink control blade 61 is adjustably mounted for movement toward or away from the cylinder 14 (Granger, col. 3, ll. 25-27).
7. The vanes or guides 63 form passages 75 on the blade 61 to pump the viscous ink into a channel 76 to uniformly supply the ink along the entire length of the cylinder 14 (Granger, col. 3, ll. 40-51).
8. As shown in Granger's Figure 3, inner ends 64 of fins 63 along with the illustrated indented portion of the blade 61 that form channels 75 constitute an edge for splitting a film of ink (Granger, Figure 3).
9. Granger's Figure 2 shows via the arrows that the ink 38 moves in the same direction as the roller (Granger, Figure 2).
10. Granger discloses all the structural features of claim 17.

ANALYSIS

Granger anticipates Appellants' claim 17. As recited in claim 17, Granger discloses a roller having a surface with a radius of curvature, the roller surface carrying a film (FF 4, 5), a metering element having an edge for splitting the film (FF 5, 8), and a moveable metering element with respect to the roller surface (FF 6). Accordingly, we agree with the Examiner that Granger discloses all the structural features of claim 17.

Appellants' arguments that Granger's structure is different because Granger has a reservoir 38, cells 25 and a different structure for blade 61 (Reply Br. 2) overlook that claim 17 uses the open-ended transitional claim language "comprising." As such, Granger's reservoir, cells and "different structure for blade 61" is not excluded by Appellants' claim 17.

Moreover, Appellants argue that Granger's structure is different than the "disclosed" structure (Reply Br. 2). However, the relevant comparison is between Granger's structure and the *claimed* structure. When the proper comparison is made, one finds that Granger anticipates the claimed structure.

Because Granger discloses all the structural features, we agree with the Examiner that Granger's device is capable of producing a fluid film on the roller downstream of the ink control blade 61 (i.e., metering device) with a thickness of half of an average distance from the concave surface to the roller surface. *Schreiber*, 128 F.3d at 1477. That Granger does not explicitly disclose the claimed downstream thickness is of no criticality because the absence of express disclosure relating to function does not defeat a finding of anticipation. *Id.*

Rather, because the Examiner has established that Granger discloses a device that includes the claimed structural features, the burden was properly shifted to Appellants to show that the device is not capable of performing the claimed function (i.e., achieving the recited downstream thickness). *Schreiber*, 128 F.3d at 1478.

However, Appellants have not carried their burden. Appellants have not provided any evidence that Granger's device is incapable of achieving the recited thickness. Appellants merely argue that Granger's device has

additional structural elements (Reply Br. 2). As noted above, the argued distinctions are not excluded by Appellants' open-ended claim language.

For these reasons, we sustain the Examiner's § 102 rejection of claims 17 and 21 over Granger.

35 U.S.C. § 103 REJECTION OVER GRANGER

STATEMENT OF THE CASE

The Examiner finds that Granger teaches all the claim 16 features, except the concave surface being an arc of 10 degrees or more (Ans. 6). The Examiner determines that it would have been obvious to one of ordinary skill in the art to determine the size of the concave surface with respect to the size of the roller surface in order to achieve the ideal ink film thickness and uniformity (Ans. 7).

Appellants argue that Granger does not disclose the metering element "for splitting a fluid film" as claimed, because there is no film split by Granger (App. Br. 8). Appellants further argue that Granger does not disclose and it would not have been obvious to have a metering element with an arc of 10 degrees or more of the roller surface (App. Br. 8).

ISSUE

Did Appellants show that the Examiner erred in finding that Granger discloses a metering element for splitting a fluid film and concluding that it would have been obvious to determine the proper size of the metering element? We answer both questions in the negative.

PRINCIPLES OF LAW

The Examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability. *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992). For a *prima facie* case of obviousness all the claim features must be taught or suggested by the applied prior art. *In re Royka*, 490 F.2d 981, 985 (CCPA 1974).

Where the difference between a claimed invention and the prior art is a range for a variable, determining a suitable range for a prior art disclosed variable would have been obvious absent applicant's showing that the particular range is *critical*, generally by showing that the claimed range achieves unexpected results relative to the prior art range. *In re Woodruff*, 919 F.2d 1575, 1578 (Fed. Cir. 1990). A person of ordinary skill is a person of ordinary creativity, not an automaton. *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1742 (2007).

FACTUAL FINDINGS (FF)

11. Granger shows that blade 61 has a radius of curvature and arc that corresponds to a portion of the cylinder 14 (Figures 1 and 2).
12. Granger does not explicitly disclose what the degree of arc is for the blade 61.
13. Granger discloses that the blade 61 provides the uniform supply of ink to the cylinder 14 (col. 3, ll. 18-51).
14. Granger discloses that the ink fountain assembly applies ink uniformly to the inking cylinder (col. 4, ll. 56-57).
15. Granger further discloses that the fountain assembly includes an ink control subassembly 60 including an ink control blade 61 with a

- number of guide vanes or fins 63 thereon and the blade 61 has an inner surface 62 that has the same or very nearly the same radius as the cylinder 14 (i.e., a concave surface) (col. 3, ll. 19-23).
16. As shown in Granger's Figure 3, inner ends 64 of fins 63 along with the illustrated indented portion of the blade 61 that form channels 75 constitute an edge for splitting a film of ink (Granger, Figure 3).
17. The arrows shown with regard to cylinder 14 and the space 38 in the ink pan 36 in Granger's Figure 2 indicates that the ink in the reservoir moves with the cylinder 14 motion (Granger, Figure 2).

ANALYSIS

Contrary to Appellants' arguments, Granger's ink fountain assembly has an edge for performing the splitting function of the ink film on the cylinder 14 (FF 15, 16). Granger illustrates that the ink in the space 38 moves with the cylinder 14 thereby indicating that the ink moves with the cylinder 14 as a film (FF 17). This film of ink is then split by blade 61 such that a portion remains in the reservoir to be recirculated and another portion is carried by the cylinder 14.

Appellants' argument regarding the "10 degree arc" feature is merely that the feature would not have been obvious to one skilled in the art (App. Br. 8). Such an argument is conclusory on its face. Appellants have not provided any substantive argument that the Examiner's erred in the obviousness conclusion.

Moreover, Granger's illustration that the blade 61 has a degree of arc and that the purpose of the blade is to uniformly supply the cylinder 14 with ink (FF 11-14) supports the Examiner's determination that it would have

been obvious to one of ordinary skill to determine acceptable degrees of arc for the blade, including an arc of 10 degrees or more, in order to achieve an uniform ink supply on the roller surface. Appellants have not provided any evidence that the claimed degree of arc range is critical. *Woodruff*, 919 F.2d at 1578.

Accordingly, we sustain the Examiner's § 103 rejection of claims 16 and 22 over Granger.

35 U.S.C. § 103 REJECTIONS OVER SHRIVER IN VIEW OF
GRANGER; SHRIVER IN VIEW OF GRANGER AND DAHLGREN;
SHRIVER IN VIEW OF GRANGER AND KISTLER

STATEMENT OF THE CASE

The Examiner finds that Shriver discloses all the features recited in claim 1, except that the metering element has a concave surface facing the roller surface (Ans. 4). The Examiner finds that Granger discloses that the metering element has a concave surface facing the roller surface (Ans. 4). Based on these findings, the Examiner concludes that it would have been obvious to modify Shriver's metering element with the concave surface as disclosed by Granger so as to "accurately set the position of the concave surface with respect to rotating roller surface in order to accurately control the thickness and uniformity of the film of ink" (Ans. 4-5).

Appellants argue that the curved section of Granger's blade 61 permits the reservoir to be properly sealed, not to provide any film splitting capabilities (App. Br. 6). Appellants further argue that there is no motivation for the Examiner's proposed combination of Shriver and Granger because Shriver's blade is not in contact with the reservoir and no sealing is

needed (App. Br. 7; Reply Br. 3)). Appellants argue lack of motivation because neither Granger nor Shriver discloses that the curved surface improves the accuracy of the position of the concave surface (App. Br. 7), or that the concave surface 62 of Granger's blade 61, by itself, provides accurate control of the ink (Reply Br. 2-3).

ISSUE

Did Appellants show that the Examiner erred in determining that one of ordinary skill in the art would have been motivated to combine Granger's concave surface facing the roller surface with Shriver's outside the reservoir located doctor blade 150 so as to "accurately set the position of the concave surface with respect to rotating roller surface in order to accurately control the thickness and uniformity of the film of ink"? We answer that question in the affirmative.

PRINCIPLES OF LAW

The Examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability. *In re Oetiker*, 977 F.2d at 1445 (Fed. Cir. 1992). When assessing the obviousness of a claimed invention, it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does. *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. at 1741 (2007). Evidence of a suggestion, teaching, or motivation to combine may flow from the prior art references themselves, the knowledge of one of ordinary skill in the art, or, in some cases, from the nature of the problem to be solved. *In re Dembiczak*, 175 F.3d 994, 999

(Fed. Cir. 1999). It is improper to base an obviousness conclusion on impermissible hindsight. *Id.*

FACTUAL FINDINGS (FF)

18. The Examiner finds that Granger discloses “to use a curved surface for the metering blade . . . to accurately set the position of the concave surface with respect to rotating roller surface in order to accurately control the thickness and uniformity of the film of ink” in the abstract and at column 3, lines 33-39 (Ans. 10).
19. Granger discloses an ink control blade that accurately controls the thickness and uniformity of the ink film (abstract).
20. Granger discloses at column 3, lines 33-39 that by turning screw 67 the position of the surface 62 (i.e., the curved surface) of blade 61 in relation to cylinder 14 can be accurately adjusted (col. 3, ll. 33-39).
21. Granger’s disclosure at column 3, lines 33-39 teaches that screw 67 permits accurate adjustment of the space between the cylinder 14 and surface 62 presumably to control film thickness, not that the curved surface provides more accurate control of the position of the surface 62 relative to the cylinder.
22. Granger discloses that the blade 61 is positioned in the reservoir (Figures 1 and 2).
23. Granger discloses that the curved surface 62 of blade 61 has fins 63, which form passages 75 and channel 76 on blade 61 such that the viscous ink is pumped by the rotational motion of cylinder 14 through

- the passages 75 to channel 76 and provide a uniform supply of ink along the entire length of the cylinder (col. 3, ll. 19-23).
24. The pumping action of the ink by cylinder 14 moves the ink along the passage 76 of blade 61 positioned in the reservoir from the inlet of the fountain 42 to the outlet of the fountain 41, 41a (Granger, col. 2, ll. 38-41, 59-63; col. 3, ll. 44-50; Figures 2, 3, and 10).
25. Shriver discloses a fountain roll and assembly including a doctor blade 150 positioned outside of pan 26 holding ink 34 (Figure 6).
26. Shriver does not disclose the doctor blade 150 has a curved surface facing the peripheral surface 30 of fountain roll 28.
27. Shriver discloses that the doctor blade 150 removes excess ink to leave an even layer of ink on the peripheral surface 30 of fountain roll 28, and the excess ink falls back into the ink supply 34 (col. 5, ll. 26-31).

ANALYSIS

The Examiner's reason for combining Granger's curved surface facing the cylinder 14 with Shriver's doctor blade is based on Granger's disclosure to accurately adjust the position of blade 61 relative to cylinder 14 using screw 67, which the Examiner determines controls the thickness of the film and produces a more uniform ink film (Ans. 10). However, Granger does not disclose that the curved surface 62 affects the uniformity of the ink film (FF 21). Rather, Granger discloses that the fins 63 on the blade 61 provide passages 75 and form channel 76 that, via the pumping action in the reservoir induced by the motion of cylinder 14, moves the ink from the inlet of the fountain reservoir through the passages 75 and channel 76 to the outlet

of the fountain (FF 22-24). Accordingly, it is not the curved surface which provides the uniformity of the ink film in Granger, but the fins 63 on the curved surface 62 of blade 61 that provide a uniform ink supply along the entire length of the blade 61 and thus, the cylinder 14.

While Granger's blade 61 is moved by screw 67 to adjust the spacing between the surface 62 and the cylinder 14 (FF 20) to presumably affect the thickness of the film produced, Granger does not disclose that the curved surface 62 provides more accurate positioning of the blade 61 to control the film thickness (FF 21). Rather, screw 67 accurately positions the blade 61 to provide the control of the spacing between the curved surface 62 of blade 61 and cylinder 14 (i.e., the film thickness) (FF 20, 21).

Furthermore, Shriver discloses that the doctor blade 150 produces an even film on the fountain roll 28 without a curved surface facing the fountain roll (FF 26-27). Accordingly, we determine that the only suggestion to combine Granger's curved surface 62 with Shriver's doctor blade improperly comes from Appellants' Specification. From the foregoing analysis, we determine that the Examiner has impermissibly based the combination of Granger's curved surface 62 with Shriver's doctor blade 150 on hindsight.

Additionally, even if the proposed combination were made there appears to be no reasonable expectation of success. The function of blade 61 in Granger is to form a channel structure via fins 63 to pump the ink in the reservoir along the entire length of the blade from the inlet of the reservoir to the outlet of the reservoir (FF 24). In contrast, Shriver's doctor blade 150 is positioned outside of the reservoir such that combining Granger's curved blade surface 62 with fins 63 would not reasonably appear

to be expected to provide a uniform supply of ink along Shriver's modified doctor blade because the pumping action from the fountain inlet to outlet disclosed by Granger which produces the uniform supply could not reasonably be achieved by the position of Shriver's doctor blade outside the reservoir.

We do not sustain the Examiner's following § 103 rejections: claims 1-4, 6-9, 12-14, 20, and 23 over Shriver in view of Granger; claim 5 over Shriver in view of Granger and Dahlgren; and claim 18 over Shriver in view of Granger and Kistler.

CONCLUSION

We affirm the Examiner's rejection of claims 17 and 21 under 35 U.S.C. § 102 over Granger.

We affirm the Examiner's rejection of claims 16 and 22 under 35 U.S.C. § 103 over Granger.

We reverse the Examiner's rejection of claims 1-4, 6-9, 12-14, 20, and 23 under 35 U.S.C. § 103 over Shriver in view of Granger.

We reverse the Examiner's rejection of claim 5 under 35 U.S.C. § 103 over Shriver in view of Granger and Dahlgren.

We reverse the Examiner's rejection of claim 18 under 35 U.S.C. § 103 over Shriver in view of Granger and Kistler.

Appeal 2008-4485
Application 10/628,652

ORDER

We affirm-in-part.

AFFIRMED-IN-PART

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